

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

DAVID GIORGINI and DIANE	:	CIVIL ACTION
GIORGINI,	:	
	:	
Plaintiffs,	:	
	:	
v.	:	
	:	
FORD MOTOR COMPANY,	:	
	:	
Defendant.	:	NO. 06-0968

MEMORANDUM AND ORDER

L. Felipe Restrepo
United States Magistrate Judge

March 28, 2008

I. PROCEDURAL HISTORY

This strict products liability, negligence, breach of warranty, and loss of consortium action was originally filed against Ford Motor Company (“Ford”) on February 10, 2006 in the Philadelphia County Court of Common Pleas. Plaintiffs David and Diane Giorgini allege a design defect in their 1996 Ford F-250 Super Duty truck’s speed deactivation control switch (“SCDS”), which they claim caused a fire in the truck’s engine on June 23, 2005, causing damage to the vehicle and injury to Mr. Giorgini. The case was removed to federal court on March 3, 2006, (Doc. No. 1), and was initially referred for arbitration. (Doc. No. 2.) On November 9, 2007, an arbitration panel found for plaintiffs in the sum of \$100,000, which Ford timely appealed and demanded a jury trial de novo. (Doc. No. 27.) This Court has jurisdiction pursuant to 28 U.S.C. §§ 1332(a)(1) and 1441(a).

Now before the Court is Defendant’s Motion *in Limine* to Exclude the (Expert)

Testimony of Steven C. Rowe, pursuant to Federal Rules of Evidence 702-703 and Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), and accompanying Motion for Summary Judgment. (Doc. No. 35.) Also before the Court are Plaintiffs' Response, including a motion for Rule 11 sanctions, (Doc. No. 40), and Defendant's Reply. (Doc No. 41.) A Daubert hearing was held on March 14, 2008. Based on the parties' filings and the exhibits and testimony offered during the hearing, this Court will deny Defendant's Motion *in Limine* in part and grant in part, will deny Defendant's Motion for Summary Judgment, and will deny Plaintiff's Motion for Rule 11 Sanctions.

II. RELEVANT BACKGROUND

On or about August 27, 1996, plaintiff David Giorgini purchased a 1996 Ford F-250 4X4 diesel truck ("the truck") from an authorized Ford dealership. (See Compl. ¶ 4.) At around 6:00 p.m. on June 23, 2005, Mr. Giorgini was driving his truck on Route 452 in Delaware County when he noticed smoke wafting upwards from under the hood of his vehicle. (See Pls.' Mem. in Support of Res. 2-3 (Doc. No. 40).) He pulled over, got out of the truck, and opened the hood to investigate, at which point he saw that the truck's engine was on fire in the area underneath the master cylinder and the brake booster on the driver's side. He allegedly sustained severe and permanent pulmonary injuries by inhaling the smoke from the engine fire, resulting in "physical and emotional pain," deformity, loss of earnings and earning capacity, and other special damages. (Id.; Compl. ¶¶ 7-8.) This lawsuit ensued.

Plaintiffs' theory of the case is that the fire started as a result of a defect in the truck's SCDS, which is manufactured by Texas Instruments and installed by Ford in many of its engines,

including that in plaintiffs' truck. The SCDS serves as a "backup" hydraulic pressure switch, with the purpose of disconnecting the speed control "servo valve" for the cruise control when the vehicle's brakes are applied. If the primary disconnect switch fails, the SCDS operates to disconnect the cruise control. (See Pls.' Mem. 3.) Briefly, the mechanism by which the SCDS may cause an engine fire is as follows:

The SCDS has two sides, a "wet" side that interfaces with the vehicle's master brake cylinder and its hydraulic brake fluid, and a "dry" side, which interfaces with the vehicle's cruise control electrical wiring. A multi-layer seal of a high performance polymer film, called "Kapton," separates the wet and dry sides from one another. (See Pls.' Ex. 4, National Highway Traffic Safety Administration ("NHTSA") ODI Resume and Failure Report Summary, 8/02/2006, 3-4.)

The failure occurs when the Kapton seal becomes fatigued and permits brake fluid to leak from the wet side to the dry side of the SCDS. Once the leak develops, water-contaminated brake fluid finds its way into the dry side and corrodes the switch's electrical contacts. (Id. at 4.)

In gasoline engines, the SCDS constantly receives voltage from the vehicle's battery; thus, the SCDS's electrical contacts are constantly energized. Because of the brake fluid leak, an electrically conductive "brake fluid slurry" may develop on the dry side, causing conductive metal atoms to be deposited on the negative electrodes of the electrical contacts, which in turn may grow "dendrites." If these dendrites grow and accumulate sufficiently, they complete an electrical pathway between the power source in the engine and the ground. In certain cases, ignition of the SCDS can result in an open flame, causing an electrical fire in the vehicle's engine in the brake switch and surrounding area. (Id. at 5.) Because the SCDS is constantly energized,

this reaction can occur even when the car is at rest with the ignition off. (See Def.'s Mot. *In Limine* 3-4.)

The potential for an SCDS to cause electrical fires in Ford gasoline engines *via* the aforementioned mechanism is well-known and well-documented by both Ford and the National Highway Traffic Safety Administration (NHTSA). (See, e.g., Pls.' Exs. 4-7; see also In re Ford Motor Speed Control Deactivation Switch Products Liability Litig., 2007 U.S. Dist. LEXIS 62483 (E.D. Mich. Aug. 24, 2007)). In response to complaints and after its own investigation, Ford recalled numerous models of 1992-2004 Ford vehicles in which the defective SCDS model was installed. A total of 6.7 million vehicles were recalled, including the 1996 gasoline-powered counterpart model to Mr. Giorgini's diesel-powered truck.

Ford does not dispute that the SCDS is defective in its gasoline-powered engines, nor does it dispute the mechanism by which the SCDS may cause a fire. (See Def.'s Mot. 2-4.) However, Ford argues that this mechanism could not have caused the fire in Mr. Giorgini's truck because it has a **diesel engine**. In diesel engines, the SCDS is not constantly energized, as it is in a gasoline engine. Instead, the battery only energizes the SCDS when the ignition is in the "RUN" position. (Def.'s Mot. 3.) As a result, Ford argues, an SCDS in a diesel engine cannot cause a fire because one of the prerequisites for the defect to occur is a constantly energized SCDS circuit. Because the electrical path to ground (which causes the fire) can only occur when an electric current is present *via* the vehicle's battery, Ford maintains that it never recalled any of its diesel models because there is no evidence that a fire can occur, or has occurred, in any of its diesel models due to the distinctions in electrical wiring between the diesel- and gas-powered

Ford engines. (See id.)¹

In support of their theory that the SCDS caused the fire in Mr. Giorgini's diesel truck, plaintiffs hired a fire investigator and electrical expert, Steven C. Rowe. (See Pls.' Exs. 1, Rowe Curriculum Vitae, and 2, Rowe Investigation Report ("Rowe Report"), 12/26/06.) After investigating Mr. Giorgini's damaged vehicle, Mr. Rowe reached two conclusions: (1) that the fire originated in and was caused by the SCDS and (2) while Mr. Giorgini's vehicle was diesel-powered and hence not subject to recall because it was not constantly energized, the SCDS was energized **at the time of the fire**; therefore, the SCDS could have caused a fire in the same fashion as an SCDS in a gas-powered Ford engine. (See Rowe Report, 4-5.)

Ford challenges Mr. Rowe's expert evidence pursuant to Federal Rules of Evidence 702-703 and Daubert. With regard to Mr. Rowe's first conclusion, Ford argues that Mr. Rowe does not have sufficient evidence to conclude that the SCDS was the cause of the fire, but merely based his opinion on the fact that the SCDS had been recalled in other Ford vehicles. (See Def.'s Mot. 2-9.) With regard to Mr. Rowe's second conclusion, Ford argues that Mr. Rowe has performed no testing to confirm his theory that the mechanism *via* which the SCDS defect may cause a fire in a constantly energized system could also occur in a diesel engine given the differences in electrical wiring, and can cite no supporting literature or studies. Therefore, Ford argues, his causation theory is mere speculation. (See id. 9-13.)

Plaintiff responds that Mr. Rowe did not solely base his opinion on the Ford recall, but instead conducted an extensive investigation, and based his opinion on numerous criteria,

¹ Neither party disputes that Mr. Giorgini's engine was diesel-powered, nor do they dispute that Ford's massive recall due to the defective SCDSs has at no point included any diesel-powered Ford model, including his truck.

including burn patterns, eyewitness statements, the mode of operation of the vehicle at the time the fire occurred, physical evidence, elimination of other potential known ignition sources, and comparison with SCDS's taken from other Ford vehicles. (See Pls.' Res. 12.) Plaintiffs also argue that Mr. Rowe followed a methodology for concluding that the fire originated in the SCDS that is generally accepted by the fire and motor vehicle safety investigators. (See id. 13.)

The Court will evaluate Mr. Rowe's testimony and the parties' arguments under the following standard.

III. LEGAL STANDARD

The admissibility of expert testimony is governed by Federal Rule of Evidence 702 and the Supreme Court's decision in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), and its progeny. Rule 702 provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. The proponent of the expert testimony bears the burden of proving by a preponderance of the evidence that the above standard is met. See Daubert, 509 U.S. at 593 n.10; see also In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 744 (3d Cir. 1994). In Daubert, the Supreme Court charged trial judges with the responsibility of acting as "gatekeepers," Daubert, 509 U.S. at 589, ensuring that expert testimony in the courtroom meets the standards of Rule

702. See Calhoun v. Yamaha Motor Corp., 350 F.3d 316, 320-21 (3d Cir. 2003) (Scirica, C.J.). In Kumho Tire Co., Ltd. v. Carmichael, 526 U.S. 137 (1999), the Supreme Court expanded this gatekeeping function to include not only testimony based on “scientific” knowledge, but to testimony based on “technical” and “other specialized knowledge” as well. 526 U.S. at 141; see also Calhoun, 350 F.3d at 321; Oddi v. Ford Motor Co., 234 F.3d 136, 146 (3d Cir. 2000).

The Third Circuit has defined the requirements of Fed. R. Evid. 702 under Daubert as a “trilogy:” qualification, reliability, and fit. Calhoun, 350 F.3d at 321 (citing Schneider v. Fried, 320 F.3d 396, 405 (3d Cir. 2003)); United States v. Mathis, 264 F.3d 321, 336 (3d Cir. 2001) (Pollak, D.J.) (citing Elcock v. Kmart Corp., 233 F.3d 734, 741 (3d Cir. 2000)). First, the witness must be qualified to testify as an expert. See id. Ford does not challenge Mr. Rowe’s qualifications, (see Tr. Daubert Hr’g, 3/14/08, 2); thus, the Court will not review Mr. Rowe’s testimony with regard to the first requirement. Second, the proponent of the testimony must prove by a preponderance of the evidence that it is reliable, which is to say that the particular opinion is based on ‘valid reasoning and reliable methodology’ rather than on ‘subjective belief or unsupported speculation.’” In re Paoli R.R. Yard PCB Litig., 35 F.3d at 742 (quoting Daubert, 509 U.S. at 590); Dearson v. Bostrom Seating, Inc., 241 F. Supp. 2d 494, 496-97 (E.D. Pa. 2003). Third, the “expert testimony must ‘fit,’ In re Paoli R.R. Yard PCB Litig., 35 F.3d at 743, meaning the ‘expert’s testimony must . . . assist the trier of fact.’” Calhoun, 350 F.3d at 321 (citing Schneider, 320 F.3d at 405). The Court’s analysis will focus on the second requirement, that the expert’s opinion be reliable.

In considering the reliability requirement of Daubert, the Third Circuit has identified a non-exclusive list of factors the trial court may consider when assessing the admissibility of

expert scientific evidence:

(1) whether a method consists of a testable hypothesis; (2) whether the method has been subject to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying on the methodology; (8) the non-judicial uses to which the method has been put.

See, e.g., Pineda v. Ford Motor Co., 2008 U.S. App. LEXIS 6091, at *26-27 (3d Cir. March 24, 2008); Oddi, 234 F.3d at 145 (quoting In re Paoli R.R. Yard PCB Litig., 35 F.3d at 742 n.8); see also Kannankeril v. Terminex Int'l Inc., 128 F.3d 802, 807 (3d Cir. 1997); Rapp v. Singh, 152 F. Supp. 2d 694, 699 (E.D. Pa. 2001). Thus, the focus of a trial court's assessment is the reliability of the **methodology** by which the expert derived his or her conclusions, not the correctness of the conclusions themselves. Pineda, 2008 U.S. App. LEXIS 6091, at *14 (quoting Kannankeril, 128 F.3d at 806) ("an expert's testimony is admissible so long as the process or technique the expert used in formulating the opinion is reliable."); see also, Oddi, 234 F.3d at 146; Rapp, 152 F. Supp. 2d at 699.²

The Third Circuit has recently reminded us that Rule 702 has a liberal policy of admissibility. Pineda, 2008 U.S. App. LEXIS 6091, at *13 ("Rule 702, which governs the

² Nonetheless, as Third Circuit courts have frequently noted, the Supreme Court has stated that "conclusions and methodology are not entirely distinct from one another." See, e.g., Oddi, 234 F.3d at 146 (quoting Gen. Elec. Co. v. Joiner, 522 U.S. 136, 146 (1997)); Rapp, 152 F. Supp. 2d at 699 (quoting the same). A court "must examine the expert's conclusions in order to determine whether they could reliably flow from the facts known to the expert and the methodology used." Heller v. Shaw Indus., Inc., 167 F.3d 146, 153 (3d Cir. 1999). "A court may conclude that there is simply too great a gap between the data and the opinion proffered." Joiner, 522 U.S. at 146; see also In re TMI Litigation, 193 F.3d 613, 682-83 (3d Cir. 1999), opinion amended by 199 F.3d 158 (3d Cir. 1999), cert. denied sub nom. Gen. Pub. Util. Corp. v. Abrams, 530 U.S. 1225 (2000) and Dolan v. Gen. Pub. Util. Corp., 530 U.S. 1225 (2000).

admissibility of expert testimony, has a liberal policy of admissibility.”); see also, Kannankeril, 128 F.3d at 806 (citing Holbrook v. Lykes Bros. S.S. Co., 80 F.3d 777, 780 (3d Cir. 1996)); Dearson, 241 F. Supp. 2d at 495 (citing Montgomery County v. Microvote Corp., 152 F. Supp. 2d 784, 798 (E.D. Pa. 2001)); Clark v. Heidrick, 150 F.3d 912, 914 (8th Cir. 1998) (holding that any doubts about the admissibility of expert testimony should be resolved in favor of admission).

The Court also notes that the Supreme Court did not intend our “gatekeeping” function to supplant the traditional adversary system and the place of the jury within that system. See Daubert, 509 U.S. at 596. As with all other admissible evidence, expert testimony is subject to being tested by “vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof.” Id. at 596.

With this standard in mind, the Court now turns to Mr. Rowe’s testimony.

IV. RELIABILITY OF MR. ROWE’S OPINION TESTIMONY

As previously noted, Mr. Rowe opined the following: (1) that the fire in Mr. Giorgini’s truck originated in and was caused by the SCDS and (2) while Mr. Giorgini’s vehicle was diesel-powered and hence not subject to recall because it was not constantly energized, the SCDS was energized **at the time of the fire**; therefore, the SCDS could have caused a fire in the same fashion as an SCDS in a gas-powered Ford engine. (See Rowe Report, 4-5; Tr. Daubert Hr’g 8.) First, the Court will address Mr. Rowe’s conclusion regarding the origin of the fire in Mr. Giorgini’s truck.

1. Mr. Rowe's Opinion Regarding the Origin and Cause of the Fire

Mr. Rowe testified that he has investigated between “ninety and a hundred” vehicle fires caused by a defective SCDS. (See Rowe Dep. 14:14-21, Aug. 23, 2007.) In order to determine the origin and cause of the fire in Mr. Giorgini's truck, Mr. Rowe's investigation included “a review of the manufacturer's [Ford's] recalls, technical service bulletins, defect investigations, an informal interview and review of the deposition of David Giorgini, an informal interview with Timothy Hilsey [an automobile mechanic with whom plaintiffs consulted] and an examination of the subject vehicle” on December 1, 2006 in Media, PA. (See Rowe Report, 2; Tr. Hr'g 17-18.)

Mr. Rowe's December 26, 2006 report indicates that he did the following during his examination of Mr. Giorgini's vehicle and made the following pertinent findings:

1. An overall exterior examination of the vehicle, which indicated “extensive fire damage . . . with the most severe damage displayed toward the driver side of the engine compartment hood and front fender.” (See Rowe Report, 2; Tr. Hr'g 12.)
2. An examination of the passenger compartment, which revealed “heavy fire damage” on the driver's side and burn patterns indicating that the fire originated in the engine compartment. (See id., 2-3; Tr. Hr'g 13.)
3. An examination of the engine compartment, which revealed: (a) extreme severe fire and heat damage throughout the entire engine compartment, with the most severe damage in the rear driver side engine compartment; (b) burn patterns consistent with a fire that originated at the brake master cylinder and SCDS. (See id., 3; Tr. Hr'g 13-15.)
4. An examination of the remaining portions of the SCDS, which included the conductor leads to the SCDS and a portion of the contact assembly attached to the “spade” connectors, which indicated that the SCDS contact assembly was “arc severed” internally, consistent with that of SCDS failures documented by the NHTSA and those Mr. Rowe had previously seen. (See id.; Tr. Hr'g 22-25.) Mr. Rowe removed and preserved the remaining portions of the SCDS to be used as evidence.

Mr. Rowe also extensively photographed the interior of the engine compartment and the remains of the SCDS wiring. In addition, Mr. Rowe performed:

1. A test of the 15-ampere fuse associated with the SCDS, which indicated that the fuse was blown. Mr. Rowe opined that this test indicated that an over current in the SCDS was experienced at some point during the fire. (See id.; Tr. Hr’g 20-21.)
2. At the request of Ford, an on-site x-ray of the fuel injection control pressure sensor and an “unidentified connector,” the images from which were sent to Ford. (See id., 4; Tr. Hr’g 21.)
3. An inspection of the vehicle undercarriage, which revealed no evidence of other potential sources of ignition. (See id., 4-5.)

At his deposition and during the Daubert hearing, Mr. Rowe testified that he relied on several sources to guide his investigation of Mr. Giorgini’s vehicle: the 2004 edition of the “NFPA 912,” a Guide for Fire and Explosion Investigations issued by the National Fire Protection Association, (see Rowe Dep. 44:20; Tr. Hr’g 11-12), and an article by Jeffery Morrill regarding SCDS fire investigation in Fire & Arson Investigator, a quarterly magazine issued by the International Association of Arson Investigators. (See Rowe Dep. 49:14-20; Tr. Hr’g 61-62; see also Pls.’ Ex. 6, Jeffery Morrill, Analysis of a Ford Speed Control Deactivation Switch Fire, Fire & Arson Investigator, July 2006, at 22-27.)

Mr. Morrill’s article states:

The first step in any vehicle fire investigation is to properly identify the vehicle. Only then can a proper origin and cause investigation proceed. To identify a Speed Control Deactivation Switch (SCDS) fire, the investigator must observe the burn patterns and demonstrate evidence consistent with a fire originating at the driver’s side of the engine compartment, followed by the proper documentation, collection and analysis of the evidence.

(Morrill, 22.) The article then details the various areas of the vehicle a fire investigator should

examine to determine whether a fire was caused by an SCDS failure. The article also describes some of the signs of a fire originating in the SCDS, including burn patterns, “arc mapping” of the engine compartment wiring, and the locus of the fire damage, in addition to evidence collection and laboratory analysis, including the use of x-rays. (See Morrill, 23-27.)

In addition to Mr. Morrill’s article, plaintiffs also submitted an August, 2, 2006 report from the NHTSA regarding the Ford SCDS failures. (See Pls.’ Ex. 4; Tr. Hr’g 25-26.) The report includes a section on “Analysis and Testing,” which indicates that when NHTSA receives a complaint of an SCDS fire, they seek out photographs of the vehicles’ burn patterns to determine the intensity and origin of the fire. (See NHTSA Report, 9.)

After reviewing Mr. Rowe’s investigation of Mr. Giorgini’s vehicle and comparing it to the authoritative materials on investigation of SCDS fires submitted by plaintiffs, the Court is satisfied that the methodology used by Mr. Rowe is sufficiently reliable to pass the liberal standard of admissibility under Rule 702. See, e.g., Pineda, 2008 U.S. App. LEXIS 6091, at *13. Mr. Rowe personally inspected the vehicle, photographed and noted the burn patterns, collected the remains of the SCDS, x-rayed the remains, and noted any arcing patterns in the wiring. These actions are consistent with the methodology of SCDS fire investigation published by the International Association of Arson Investigators and utilized by the NHTSA. Plaintiffs have satisfied the Court that there is a preponderance of evidence showing that Mr. Rowe’s method of investigation is generally accepted by several authoritative bodies in fire investigation, that the method has been developed and used outside the realm of litigation, and that the method has been reviewed and utilized by other fire investigators. See, e.g., id., at *26-27.

Ford makes several arguments against the admission of Mr. Rowe’s testimony, all of

which go to Mr. Rowe's conclusions and the weight they should be accorded by a fact-finder, not his methodology. First, Ford argues that the evidence of arcing patterns on the SCDS wiring are not "as conclusive" of an SCDS fire as Mr. Rowe claims. (See Def. Mot. 19-20.) However, under Daubert, it is not the role of the Court to analyze Mr. Rowe's conclusions, but only to analyze the methodology by which he reached them. See In re Paoli R.R. Yard PCB Litig., 35 F.3d at 742 (quoting Daubert, 509 U.S. at 590); see also Paoline v. Kilgo Trucking, Inc., 2002 U.S. Dist. LEXIS 7569, at *4 (E.D. Pa. Apr. 30, 2002) ("A proponent of expert testimony need not prove to the court that the expert opinions are correct, but must demonstrate by a preponderance of the evidence that they are reliable.").

It is clear from plaintiffs' exhibits that analysis of arcing patterns is one, accepted component of SCDS fire investigation. Ford is free to challenge the weight Mr. Rowe gave to such evidence in forming his conclusion during cross-examination at trial. See Daubert, 509 U.S. at 596; see also Ambrosini v. LaBarraque, 101 F.3d 129, 135 (D.C. Cir. 1996) (expert evidence "does not warrant exclusion simply because it fails to establish the causal link to a specified degree of probability . . . The dispositive question is whether the testimony will assist the trier of fact to understand the evidence or to determine a fact in issue, (internal citations omitted), not whether the testimony satisfies the plaintiff's burden on the ultimate issue at trial.").³

Ford points out that Mr. Rowe was unable to recover the bulk of the SCDS itself post-fire

³ Ford has also offered the testimony of Mark Hoffman, an employee of Ford Motor Company, who contradicts Mr. Rowe's findings. (See Def. Mot. Ex. A.) While Ford has not designated any experts in this litigation, it is clear that they are prepared to produce evidence that contradicts Mr. Rowe, in addition to attacking Mr. Rowe's findings on cross-examination.

from Mr. Giorgini's vehicle. Therefore, Ford argues, under the methodology set forth in Mr. Morrill's article and the NHTSA report, Mr. Rowe had insufficient physical evidence to conclude that the fire could have originated in the SCDS. Specifically, Ford refers to the portion of Mr. Morrill's article which cites the NHTSA's guidelines for complaint analysis:

Yes [the fire was caused by the SCDS]. *The following criteria must be met:*

(1) The fire originated in the area where the speed control deactivation switch is located (left-rear corner of the engine compartment, at the master cylinder). This origin point would be evidenced by burn patterns seen in photographs or by eye witness account.

And (2) or (3),

(2) There was evidence of speed control deactivation switch failure prior to the fire (e.g. inoperable speed control, speed control deactivation switch fuse open—sometimes repeatedly, difficulty shifting out of PARK, evidence of brake fluid leakage from the switch) or

(3) Evidence of speed control deactivation switch failure during post-fire forensic examination.

(See Morrill, 25-26 (emphasis in original); NHTSA Report, 8/2/2006, 15.) Because there is no documented evidence of factor (2), and Mr. Rowe did not recover the bulk of the SCDS switch itself, Ford argues that factor (3) is not met, and thus Mr. Rowe cannot conclude that the fire was caused by the SCDS. (See, e.g., Tr. Hr'g 53-64, 99.)

First, Ford's argument is again directed at Mr. Rowe's conclusions, not his methodology. Second, factor (3) merely requires "**evidence** of speed control deactivation switch failure **during post-fire forensic examination.**" This statement is broadly inclusive. The Court cannot find any documentation in either Mr. Morrill's article or the NHTSA's report to support Ford's claim that such evidence of failure can only come from the body of an SCDS recovered post-fire, and

Ford has not submitted any alternative documents to support their interpretation of factor (3). Intuitively, it seems unlikely that the NHTSA would require a fire investigator to almost fully recover a device suspected of being the locus point of a fire before he or she could conclude that that device caused the fire. It seems far more likely that the NHTSA would permit a flexible inquiry that allows for the possibility that a device at the suspected origin point of a fire might be extensively damaged.

Lastly, Mr. Morrill's article goes on to state that a fire **may** have been caused by the SCDS if any one of the listed factors, (1), (2), **or** (3), exist. (See Morrill, 25.) Ford has not contested that Mr. Rowe has at least documented evidence of factor (1). Thus, if Mr. Morrill's methodology is the guide, the Court finds that Mr. Rowe may have reasonably concluded that the fire was caused by the SCDS based on his inspection. See, e.g., Rapp, 152 F. Supp. 2d at 705 (citing Heller, 167 F.3d at 153). Again, Ford is free to challenge the certainty with which Mr. Rowe formed his conclusions based on the obtained evidence during the trial.

Finally, Ford argues that Mr. Rowe failed to adequately eliminate other potential sources of ignition during his investigation. (See Def. Mot. 11-12.) An expert's failure to rule out possible alternate causes of a phenomenon can be problematic under Daubert where such "differential diagnosis" is standard procedure. See Fed. R. Evid. 702 cmt. (2008); see also Claar v. Burlington N. R.R. Co., 29 F.3d 499, 502 (9th Cir. 1994). However, the District of Columbia Circuit has explained that the fact that some causes might remain "uneliminated" goes only to the accuracy of the conclusion, not the soundness of the methodology, and is merely a question of weight rather than reliability. See Ambrosini, 101 F.3d at 140 (citing Mendes-Silva v. United States, 980 F.2d 1482 (D.C. Cir. 1993)). Consequently, Ford's argument regarding process of

elimination again goes to Mr. Rowe's conclusions, not his method.⁴

Thus, the Court finds that Mr. Rowe's testimony regarding his conclusion that the fire originated in the SCDS is sufficiently reliable under Rule 702 and Daubert, and shall be admitted.⁵

⁴ Mr. Rowe testified at his deposition that when investigating a fire, he

go[es] through the entire fire origin area, put[s] together a list of potential ignition sources, and then, one by one, [] take[s] a look at each one of those ignition sources and evaluates whether or not it actually could have ignited this fire . . . It's a [process] [sic] of elimination. Once we've got it boiled down to the most probable ignition source, you know, and we put together a theory of what happened, and try and prove or disprove that theory by interjecting different conditions that may have bearing effects on it.

(Rowe Dep. 36:5-17.) Further, Mr. Rowe states in his report, "[t]he electrical activity noted to the switch assembly would not have occurred from any other fire that originated outside [the] switch assembly as this circuit would have been compromised and de-energized," (Rowe Report, 3), and that his inspection of the undercarriage revealed "no evidence of any spilled engine fluids or any other potential fire cause." (Id., 4; see also Tr. Hr'g 18-19.) These statements indicate to the Court that process of elimination at least contributed to the manner in which he reached his conclusions, and that he made an effort to eliminate other potential sources of ignition.

Ford focuses on Mr. Rowe's response to defense counsel's question, "What about an open flame?" (presumptively as a potential ignition source in a vehicle fire). (Def. Mot. 11.) Mr. Rowe's response was,

Generally if there's no ignition source there, you know, from a hot source or electrical in nature, or show us disposal of smoking products. I mean, there's a hundred-hundreds of potential ignition sources out there, and it varies. But as far as an open flame, I mean, again it depends on the case. You know, there's too many variances to say exactly how you can eliminate that, rule it in or out.

(Rowe Dep. 38:14-23.) Ford attempts to extrapolate from this statement that Mr. Rowe is admitting that there are hundreds of potential sources of ignition in **this specific** fire. It is clear that Mr. Rowe is not making such an admission, but merely responding to a general question regarding how one might rule out extraneous causes.

⁵ Ford also argues that Mr. Rowe's testimony should be excluded under Fed. R. Evid. 703, (see, e.g., Def. Mot. 13), which governs the facts and data on which an expert may base his

2. Mr. Rowe's Theory Analogizing Constantly Energized and Intermittently Energized SCDS's in Gas and Diesel Engines

Mr. Rowe's second conclusion provides a theory as to how the mechanism known to cause SCDS fires in Ford's gasoline engines could have been the cause of the fire in Mr. Giorgini's diesel engine. As previously outlined, the critical distinction between gas- and diesel-powered Ford trucks in the context of SCDS fires is that gas-powered SCDS circuits are constantly energized with power from the vehicle's battery, whereas diesel-powered SCDS circuits are energized only when the vehicle is running and the ignition is in the "RUN" position.

A constantly-energized SCDS circuit is considered a prerequisite for a fire. For example, NHTSA's August 2, 2006 Report, in the section called "[c]ombination of factors required for failure," states, "the SCDS must be located in a circuit that is powered at all times. If the circuit on the vehicle that contains the SCDS is not powered, there is no source to produce the energy required to start heating any of the SCDS components." (See NHTSA Report, 8.)

In his report and testimony, Mr. Rowe theorizes that although Mr. Giorgini's vehicle was not constantly energized, the SCDS was energized **at the time of the fire** because the truck was running. Therefore, Mr. Rowe theorizes that the SCDS could have failed *via* the same mechanism that occurs in the constantly-energized SCDS's in Ford's gasoline engines. (See Rowe Report, 4-5.) For example, at the Daubert hearing, Mr. Rowe testified on direct examination,

or her opinion. See Fed. R. Evid. 703. While Ford has invoked Rule 703, they have not provided the Court with any argument as to whether the facts or data relied upon by Mr. Rowe should or should not be admissible under Rule 703. Further, the Court has concluded pursuant to its Rule 702 analysis that the facts and data relied upon by Mr. Rowe are "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject;" therefore, we do not address Ford's invocation of Rule 703 at this time.

Q: Does the fact that Mr. Giorgini's vehicle was a diesel vehicle make a difference in this case?

A: No, other than the fact that it's not included in the recall.

Q: And why is that?

A: Well, when the switch fails, the circuit involved that energizes the speed deactivation control switch must be energized, all right? Most of the gasoline vehicles, a good portion of them, those circuits are energized all the time, even when the vehicle is off and parked. And the diesel engine would have to be in a running state for that – at least the ignition key would have to be turned on to have that circuit energized. In this particular matter, this fire occurred while the vehicle was in operation and being driven. So that circuit was energized at the time that the fire started.

(Tr. Hr'g 29.)

While Mr. Rowe's theory seems intuitively logical, Ford attacks this theory as novel and untested. (See, e.g., Def. Mot. 9-13.) Although many factors must be considered by a court when determining if proffered expert testimony is sufficiently relevant and reliable, "a key question to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact will be whether it can be (and has been) tested." Oddi, 234 F.3d at 144-45 (quoting Daubert, 509 U.S. at 593.) In addition, "[w]idespread acceptance can be an important factor in ruling particular evidence admissible, and a known technique which has been able to attract only minimal support within the community may be properly viewed with skepticism." Id. at 145.

During cross-examination at the Daubert hearing, Ford asked the following questions and received the following responses from Mr. Rowe:

Q: NHTSA['s report] analyzed what are the combination of factors required for failure, correct?

A: That's what it says.

Q: Okay . . . and what NHTSA found was, quote, "First the SCDS must be located in a circuit that is powered at all times," period, close quote; correct?

A: That's what it says.

Q: Okay. And, sir, you have done no testing that would indicate that in a diesel engine where the electrical side of the switch is not powered at all time[s] that the switch . . . can fail and start a fire, you have not done testing that shows that, correct?

A: You have to ask that question again.

Q: Okay. You have not done any testing—well, okay, let me ask it in a couple parts . . . Do you agree that the speed control deactivation witch must be located in a circuit that is powered at all times in order for there to be a switch failure that leads to a fire?

A: Based on my experience as of this date, no, I don't believe it has to be powered all the time for a vehicle to catch on fire from this.

Q: Okay. Have you done any testing to support your opinion?

A: I have not.

Q: Okay. Have you seen any other literature from NHTSA to support your opinion?

A: I have not.

Q: Are you aware of anyone who has done any testing that supports your opinion?

A: Not to my knowledge.

Q: NHTSA continues, quote, "If the circuit on the vehicle that contains the SCDS is not powered, there is no source to produce the energy required to start hearing any of the SCDS components," close quote . . . My questions, sir, is do you agree with that statement that I just read.

A: No.

Q: Okay. Have you done any testing that supports your opinion disagreeing with

that statement?

A: I haven't taken a vehicle out and did that, no.

Q: Are you aware of any information, publication from NHTSA, that supports your opinion?

A: There is no publication at this time . . .

Q: Are you aware of anyone who has recreated the buildup of a conductive bridge in the speed control deactivation switch leading to a fire if the circuit on the vehicle is not powered?

A: . . . No . . .

Q: . . . [D]o you agree that the electrical side of the speed control deactivation switch in the diesel version of the '96 Ford is only powered when the key is in the run position?

A: That's the understanding that I have, I haven't been able to verify that . . .

Q: You've done no testing on an exemplar vehicle –

A: No.

Q: – to determine whether or not it is in fact –

A: I have none –

Q: – powered or not?

A: – at my access . . .

Q: . . . Based on the exhaustive analysis that NHTSA did . . . has NHTSA anywhere published anything that says the speed control deactivation switch issue that they investigated can occur and lead to fires in diesel vehicles?

A: No.

(Tr. Hr'g 102-11.)

On recross-examination, Ford questioned Mr. Rowe about his opinion that the same

mechanism *via* which an SCDS could cause a fire in a gasoline-powered engine caused a fire in Mr. Giorgini's engine:

Q: All right. Well, let me ask you this, sir: Is it your testimony that a conductive bridge within the speed control deactivation switch can develop and lead to a short to ground within the space of 15 to 20 minutes?

A: . . . I don't believe it happened within that time frame, it was a process over a period of time.

Q: Okay. Well, what you testified to on redirect by Mr. Bonebrake is that you think the speed control deactivation switch could have started this fire because the key was in run, because the vehicle was being driven, even though it's a diesel, correct?

A: That's correct, the circuit was powered.

Q: Okay. What I'm asking you then is, do you believe that in the time it took Mr. Giorgini to go from King of Prussia to where the accident happened that a conductive bridge that forms when the circuit could have formed . . . and led to a fire?

A: . . . The 15 minute time span, as you're saying. No, not from beginning to end, no . . .

Q: Are you aware of anyone who has done any testing that would determine how long it would take for a conductive bridge to build up in a diesel version . . . that goes from run to not run, powered to not powered? . . . Are you aware of any such study, sir?

A: No, sir.

(Tr. Hr'g 117-22.)

Based on this testimony, the Court finds that Mr. Rowe's theory *via* which an SCDS fire could have started in a partially-energized SCDS was not only untested by Mr. Rowe, but has never been tested nor confirmed within a reasonably degree of scientific certainty by any fire investigator or vehicle safety investigator.

There are numerous cases in which district courts have rejected expert testimony because an expert's testing methodology was flawed, had not been subjected to peer review, or was not generally accepted. See, e.g., Morehouse v. Louisville Ladder Group LLC, 2004 U.S. Dist. LEXIS 21766 (D.S.C. June 28, 2004) (the expert's "theory does not only lack general acceptance in the scientific community, it is not even known to it."); Dearson, 241 F. Supp. 2d at 499 ("plaintiffs have provided no evidence that the testing method used here has been subjected to peer review or is generally accepted as reliable or that it is comparable to a methodology which has been previously deemed reliable.")

However, these cases are seemingly inapplicable here because where no testing is performed, a court cannot examine the reliability or general acceptance of the testing methodology because it does not exist.⁶ Failure on the part of an expert to test a theory might be remedied under Daubert by submitting evidence of another expert's study, literature in that expert's field that supports the expert's conclusion, or evidence that a theory has been generally accepted and adopted by his particular investigative community. Plaintiffs have not pointed to any such evidence; to the contrary, Mr. Rowe has testified rather conclusively that such evidence does not exist. Where a theory is novel and, thus, outside support would not exist, some form of testing or verification is required to prevent the theory from being "opinion evidence which is connected to existing data only by the *ipse dixit* of the expert." Gen. Elec. v. Joiner, 522 U.S. at

⁶ Rather, this case is analogous to Paoline v. Kilgo Trucking, where an expert's testimony was rejected by this Court because, although the proffered expert inspected the allegedly defective vehicle in question, he performed no testing to support his theory of design defect, nor was he able to point to any tests or studies upon which he based his conclusion regarding the alleged defect. 2002 U.S. Dist LEXIS 7569. See also Pro Serv. Auto., L.L.C. v. Lenan, 469 F.3d 1210 (8th Cir. 2006).

146; see also Booth v. Black & Decker, Inc., 166 F. Supp. 2d 215, 221 (E.D. Pa. 2001). Mr. Rowe has essentially testified that the only support he can lend to his theory is exactly that—his say so. Thus, the Court cannot find that Mr. Rowe’s causation theory regarding an intermittently powered SCDS meets the standard of admissibility articulated by the Third Circuit. See, e.g., Pineda v. Ford Motor Co., 2008 U.S. App. LEXIS 6091, at *26-27.

Such being the case, Mr. Rowe will not be permitted to testify that, in his opinion, because the SCDS in Mr. Giorgini’s truck was energized at the time of the fire, it could have caused a fire in the same fashion as that which occurs in a constantly-energized SCDS. However, Mr. Rowe’s opinion regarding the origin of the fire has a proper basis and will assist the trier of fact. Should such information be relevant at trial, Mr. Rowe is also competent to testify as to the way in which a constantly energized SCDS may cause a fire in a gas-powered Ford engine.⁷

In summary, Mr. Rowe will be permitted to testify that:

- (1) the fire in Mr. Giorgini’s truck originated in the SCDS and the basis for his conclusion, and
- (2) Mr. Rowe may testify regarding SCDS fires generally, if relevant.

Mr. Rowe may not testify that an intermittently powered SCDS can cause an electrical fire in the same fashion as that in a constantly energized SCDS, because plaintiffs have not proven by a preponderance of the evidence that such testimony is reliable.⁸

⁷ See, e.g., Auto-Owners Ins. Co. v. Uniden Am. Corp., 503 F. Supp. 2d 1087 (E.D. Wis. Aug. 3, 2007).

⁸ Accordingly, the following portion of Mr. Rowe’s report will be redacted: on page four, starting at the fourth full paragraph, “and is the subject of a manufacturer’s recall and a known

V. FORD'S MOTION FOR SUMMARY JUDGMENT⁹

Ford also motions for summary judgment, arguing that without Mr. Rowe's expert testimony, plaintiffs cannot satisfy their burden of proving a design defect. (See Def. Mot. 21-23.) Ford argues that without expert testimony, plaintiffs cannot, as a matter of law, prove product defect and proximate cause, because expert testimony is a prerequisite to proof of a defect in a "highly technological system[]" such as a vehicle engine. (See Def. Mot. 22.)

To prevail in a products liability action under Pennsylvania law, a plaintiff must prove (1) a product was defective, (2) that the defect existed at the time the product left the manufacturer's control, and (3) that the defect was a substantial factor in causing the plaintiff's injury. See Marino v. Maytag Corp., 2005 U.S. Dist. LEXIS 22377, at *8 (W.D. Pa. Sept. 29, 2005) (citing Sherk v. Daisy-Heddon, 450 A.2d 615 (Pa. 1982)). Pennsylvania law contains no *per se* rule that in the absence of expert testimony a defendant is entitled to summary judgment in a design defect case, but expert testimony is necessary when "laypersons would lack the necessary knowledge and experience to render a just decision." See id. (citing Jones v. Toyota Motor Sales, USA, Inc.,

condition to cause a fire by Ford Motor Company. At this time the subject vehicle is not included in the recall because the involved circuitry is not energized while the vehicle is parked and not running since it is equipped with the 7.3 diesel engine. However, this fire occurred while the involved circuit was energized and while the vehicle was in operation when the SCDS failure occurred." (See Rowe Report, 4-5.)

⁹ In deciding a motion for summary judgment under Fed. R. Civ. P. 56, "the test is whether the moving party is entitled to judgment as a matter of law." Med. Protective Co. v. Watkins, 198 F.2d 100, 103 (3d Cir. 1999) (citing Armbruster v. Unisys Corp., 32 F.3d 768, 777 (3d Cir. 1994)). Summary judgment will not be granted where the dispute about a material fact is genuine; that is, if the evidence is such that a reasonable jury could return a verdict for the nonmoving party. Anderson v. Liberty Lobby, 477 U.S. 242, 250 (1986). On a motion for summary judgment, the facts should be reviewed in the light most favorable to the non-moving party. See Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 587 (1986).

282 F. Supp. 2d 274, 276 (E.D. Pa. 2003)). The Court accepts defendant's assertion that a vehicle fire is sufficiently complex as to be beyond the ken of an ordinary layperson. See Koplove v. Ford Motor Co., 795 F.2d 15 (3d Cir. 1986).¹⁰

The Court has granted Ford's Daubert motion in part and denied it in part, and will permit Mr. Rowe to testify regarding all his observations and conclusions except his theory regarding how a "conductive bridge" might have occurred in an intermittently-energized SCDS in a diesel engine. Thus, the Court finds that a sufficient portion of Mr. Rowe's expert testimony is admissible in order for plaintiffs to withstand summary judgment. Accordingly, defendant's motion is denied.

VI. PLAINTIFF'S MOTION FOR RULE 11 SANCTIONS

Plaintiffs motion this Court for Rule 11 sanctions, seeking payment of costs, penalties and attorney's fees. Plaintiffs argue that Ford's Daubert motion is frivolous and harassing. (See Pls.' Res. 2, 14.) The Court denies plaintiffs' motion. Rule 11 sanctions are reserved for circumstances where a motion is "patently unmeritorious or frivolous." See Arab African Intern. Bank v. Epstein, 10 F.3d 168, 175 (3d Cir. 1993) (quoting Doering v. Union County Bd. Of Chosen Freeholders, 857 F.2d 191, 194 (3d Cir. 1988); see also Gaiardo v. Ethyl Corp., 835 F.2d 479, 483 (3d cir. 1987). Sanctions, including fees, are only to be prescribed in "exceptional circumstances." Gaiardo, 835 F.2d at 483. Ford's Daubert motion had a reasonable factual and legal foundation when filed, and the Court finds no abuse of the legal system in its filing. Accordingly, plaintiffs' motion for sanctions is denied.

¹⁰ The Court also notes that Ford has not designated any experts in this litigation.

An appropriate Order follows.